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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,134	12/06/2004	Junbiao Zhang	PU020267	6840
Joseph S Tripoli Thomson Licensing Inc PO Box 5312 Princeton, NJ 08543-5312				
EXAMINER OKORONKWO, CHINWENDU C				
ART UNIT		PAPER NUMBER		
2436				
MAIL DATE		DELIVERY MODE		
10/29/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/517,134

**Applicant(s)**

ZHANG, JUNBIAO

**Examiner**

CHINWENDU C. OKORONKWO

**Art Unit**

2436

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Remarks/Arguments***

1. Applicant's arguments with respect to the restriction of the claims have been fully considered but they are moot in view of the new ground(s) of rejection.

### ***Election/Restrictions***

2. Examiner acknowledges the arguments/remarks made by Applicant in regards to the Election/Restriction Requirements of 03/19/2008. The Restriction Requirement has been overcome and thus claims 1-18 are addressed below.

### ***Priority***

3. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(a)-(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Priority is claimed from PCT Application PCT/US03/16546, which in turn claims priority from Provisional Application 60/386603.

### ***Information Disclosure Statement***

4. For the record, the Examiner acknowledges the IDS submitted on 12/06/2004. It has been received and considered.

### ***Oath/Declaration***

5. For the record, the Examiner acknowledges that the Oath/Declaration submitted on 12/06/2004 has been received and considered.

***Drawings***

6. For the record, the Examiner acknowledges that the Drawings submitted on 12/06/2004 have been received and considered.
7. Pursuant to USC 131, claims 1-18 are presented for examination.
8. Claims 1-18 are pending.

***Claim Rejections - 35 USC § 101***

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 16-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims recite a "mobile device", however the claims do not provide support for such a subject matter in that no physical structure is described. Correction is required.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verma et al. (US Patent No. 7,046,998 B2 hereinafter "Verma") and further in view of Marcelli (US Patent No. 7,231,203 B2 hereinafter "Marcelli").

Regarding claim 1, Marcelli, discloses a wireless LAN (WLAN) having an interworking function, a method for interworking between the WLAN and a second network, the WLAN and the second network capable of communicating with a broker, the method comprising the steps of:

- receiving from the broker, a first key (6:20-52 – "Rand1");
- receiving from a user device, a second network to user certificate that includes a broker to second network certificate and a second key (6:20-52 – "SRES1" and "unique key.sub.i");
- authenticating the broker to second network certificate using the first key to derive a third key (6:20-52 – "a second algorithm, such as the well known A8 algorithm, parameterized with the unique key k.sub.i, is applied to the random number Rand1, in order to obtain a session key k.sub.c1");

- authenticating the second network to user certificate using the third key to derive the second key (6:20-52 – “for authentication ... the HLR 6’ generates a random number Rand1, to which a first algorithm, such as the well known A3 algorithm, parameterized with the unique key k.sub.i”);
- generating a session key, encrypting the session key using the second key, and transmitting the encrypted session key to the user device (6:20-52 – “session key k.sub.c2”); and
- communicating with the user device using the session key (6:53-61).

Regarding claim 2, Marcelli. Is silent in disclosing the second network to user certificate further includes a subscription level of the user that indicates whether the user is subscribed for an interworking service, and the generating step is performed in response to the subscription level, however Verma does provide disclosure in the recitation of 6:22-26 – “authenticate and bill customers.”

It would have been obvious for one of ordinary skill in the art, at the time of the invention, to have been motivated to combine the disclosure of Marcelli with that of Verma as both are directed towards authenticated communication in wired and wireless networks. The motivation for this combination is provided by the disclosure, “would be advantageous to provide a system and method for user equipment (UE) to request a download of a program and actually download the program using the advantageous features of the cellular network and the WLAN.

In this way, multimedia service can be improved and delivered at a low cost (1:50-54 of Verma).”

3. The method of claim 1, wherein the second network to user certificate further includes an expiration time of the second network to user certificate, and the method further comprises the step of checking the expiration time to determine whether the second network to user certificate has expired (6:20-52).

4. The method of claim 1, further including the step of generating a WLAN to user certificate that is signed with a fifth key and includes the session key, whereby the user device is able to authenticate the WLAN (6:20-52).

Claim 5 is disclosed by Marcelli and is rejected under the same rationale as claim 1, as both claims comprise similar limitations.

Claim 6 is disclosed by Verma in view of Marcelli and is rejected under the same rationale as claim 2, as both claims comprise similar limitations.

Claim 7 is disclosed by Marcelli and is rejected under the same rationale as claim 3, as both claims comprise similar limitations.

Claim 8 is disclosed by Marcelli and is rejected under the same rationale as claim 4, as both claims comprise similar limitations.

Claim 9 is disclosed by Marcelli and is rejected under the same rationale as claim 1, as both claims comprise similar limitations.

Claim 10 is disclosed by Marcelli and is rejected under the same rationale as claim 1, as both claims comprise similar limitations.

Claim 11 is disclosed by Verma in view of Marcelli and is rejected under the same rationale as claim 2, as both claims comprise similar limitations.

Claim 12 is disclosed by Marcelli and is rejected under the same rationale as claim 3, as both claims comprise similar limitations.

Claim 13 is disclosed by Marcelli and is rejected under the same rationale as claim 4, as both claims comprise similar limitations.

Regarding claim 14, Marcelli, discloses a broker based system for authenticating users in networks having interworking relationships, comprising:

- a wireless LAN (WLAN) having an interworking function (1:19-20, 36-39 - "a communications network" and W-LAN (Wireless Local Area Networks)



technology is also born and is being developed, allowing Internet of Intranet users to connect to the network without the need of a cable”);

- a second network (1:51-56 – “a separate mobile communications system”); and
- a broker capable of communicating with the WLAN and the second network, the broker having means for transmitting a broker public key to the WLAN, and means for transmitting a broker to second network certificate, which is signed with a broker private key and includes a second network public key, to the second network, the second network including means for transmitting, to a user device, a second network to user certificate signed with a second network private key and includes the broker to second network certificate and the user public key, the WLAN including means for authenticating the broker to second network certificate and deriving the second network public key, means for authenticating the second network to user certificate and deriving the user public key, and means for generating a session key and encrypting the session key with the user public key (2:6-11 and 29-33 – “authentication procedure used in a mobile communication network, such as a GSM network ... when a mobile terminal requires to join the mobile network” and “use of the ... mentioned authentication procedure for connection to a communications network different from a mobile network, such as the Internet or a corporate Intranet”).

Regarding claim 15, Marcelli, discloses the method of claim 14, wherein the WLAN further includes means for transmitting a WLAN to user certificate signed with a WLAN private key and includes the encrypted session key (6:2-8 – “[i]n order to increase privacy, the identifier and the random number Ra may be sent in encrypted form. For the purpose of encryption, the user’s software client may be comprised of a public key, e.g. RSA-based key provided in advance by the service provider, which in turn retains the related private key has a length of at least 1024 bits.”).

Regarding claim 16, Marcelli, discloses a mobile device comprising: means for receiving from a second network a second network to user certificate that includes

- a broker to second network certificate and a key (5:51-59 – “software client generates a number, preferably a random number Ra, that, as it will be clarified in the following, plays a role in the steps of the authentication procedure required in order to allow the user to authenticate the access point 2 and the network 7 as “trusted.” Herein and in the following, the term “number” may be interpreted as any binary, octal, decimal, or hexadecimal number, or even as a generic string of alphanumeric characters”);
- means for transmitting said second network to user certificate to a first network (5:61-64 – “the software client sends to the NAS 3 the identifier recovered from the SIM and at least a portion of the random number Ra.”);

- means for receiving a session key generated by said first network (6:3-7 – “the user’s software client may be comprised of a public key, e.g. a RSA-based key provided in advance by the service provider, which in turn retains the related private key.”); and  
means for communicating with said first network using said session key (6:2-3 – “to increase privacy, the identifier and the random number Ra may be sent in encrypted form”).

Regarding claim 17, Marcelli, discloses the mobile device according to claim 16, wherein said first network is a wireless local area network having an interworking function (1:19-20, 36-39 - “a communications network” and W-LAN (Wireless Local Area Networks) technology is also born and is being developed, allowing Internet of Intranet users to connect to the network without the need of a cable”).

Regarding claim 18, Marcelli, discloses the mobile device according to claim 16, wherein said second network is a cellular network (2:6-11 and 29-33 – “authentication procedure used in a mible communication network, such as a GSM network ... when a mobile terminal requires to join the mobile network” and “use of the ... mentioned authentication procedure for connection to a communications network different from a mobile network, such as the Internet or a corporate Intranet”).).

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHINWENDU C. OKORONKWO whose telephone number is (571)272-2662. The examiner can normally be reached on MWF 2:30 - 6:00, TR 9:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami can be reached on (571) 272 4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. C. O./  
Examiner, Art Unit 2436

/Brandon S Hoffman/  
Primary Examiner, Art Unit 2436